In the Claims

Claims 1-26 (Cancelled)

27. (new) A method for processing an image of a specimen or dental x-ray to identify a pathogen within the specimen or dental x-ray, comprising the steps of:

providing an image of a specimen or dental x-ray;

providing a parallel processing computing platform;

implementing a recursive hierarchical segmentation algorithm on the parallel processing computing platform and processing the image with the recursive hierarchical segmentation algorithm to isolate at least one segment of the provided image that has a feature that is of interest;

processing the isolated segment with a data mining algorithm to extract particular image data from the isolated segment; and

processing the extracted particular image data and each of the reference images with an optical recognition algorithm to determine if the extracted image data matches any of the reference images.

28. (new) The method according to claim 27 wherein the step of providing the image comprises acquiring the image.

29. (new) The method according to claim 28 wherein the step of acquiring the image comprises processing the acquired image to provide pertinent portions of the acquired image.

30. (new) The method according to claim 28 wherein the step of acquiring the image comprises digitizing the acquired image.

31. (new) The method according to claim 30 wherein the step of acquiring the image further comprises digitally enhancing the digitized image.

32. (new) The method according to claim 31 further comprising storing the digitally enhanced image in a data storage device.

33. (new) The method according to claim 27 further comprising displaying the extracted data and the results of processing the extracted image data and each reference image.

34 (new) The method according to claim 27 further comprising providing a data base having a plurality of reference images stored therein.

35. (new) A system for processing an image of a specimen or dental x-ray to identify a pathogen within the specimen or dental x-ray, comprising:

a device to provide an image of a specimen or dental x-ray;

a digitizer to digitize the provided image;

a first data storage device to store the digitized images;

a second data storage device having at least one reference image stored therein;

a parallel processing computing platform configured to implement a recursive hierarchical segmentation algorithm, a data mining algorithm and an optical recognition algorithm;

a work station computer in data communication with the parallel processing computing platform, the work station computer comprising electronic data communication hardware and software that enables the work station computer to control the parallel processing computing platform to (i) process the digitized image with the recursive hierarchical segmentation algorithm to isolate at least one segment of the digitized image that has a feature that is

of interest, (ii) process the isolated segment with the data mining algorithm to extract particular image data from the isolated segment, and (iii) process the extracted particular image data and each of the reference images with the optical recognition algorithm to determine if the extracted image data matches any of the reference images; and

a display device in data communication with the work station computer to display the extracted image data and the results of processing the extracted image data and the reference image with the optical recognition algorithm.

36. (new) The system according to claim 35 wherein the device comprises a device to acquire the image.

37. (new) The system according to claim 35 wherein the device further comprises an enhancer device to digitally enhance the digitized image.

38. (new) The system according to claim 35 wherein the device comprises a video camera.